

## Bio Materials for: Richard R. James, INCE

Mr. James is the Owner and Principal Consultant for E-Coustic Solutions, LLC, of Okemos, Michigan. He has been a practicing acoustical engineer for over 40 years. He started his career as an acoustical engineer working for the Chevrolet Division of General Motors Corporation in the early 1970s. His clients include many large manufacturing firms, such as, General Motors, Ford, Goodyear Tire & Rubber, and others who have manufacturing facilities community noise and worker noise exposure. In addition, he has worked for many small companies and private individuals. He has been actively involved with the Institute of Noise Control Engineers (INCE) since its formation in the early 1970's and is currently a Member Emeritus.

His academic credentials include a degree in Mechanical Engineering (BME) from General Motors Institute, Flint Michigan (now Kettering Institute). He has been an adjunct Instructor to the Speech and Communication Science Department at Michigan State University from 1985 to 2013 and a adjunct Professor for the Department of Communication Disorders at Central Michigan University from 2012 through 2017. In addition, Mr. James served on the Applied Physics Advisory Board of Kettering Institute from 1997 to 2007.

Specific to wind turbine noise, he has worked for clients in over 60 different communities.

He has provided written and oral testimony in approximately 30 of those cases. He has also authored or co-authored four papers covering wind turbine noise topics including:

- Criteria for wind turbine projects necessary to protect public health (2008),
- Demonstrating that wind turbine sound immissions are predominantly comprised of infra and low frequency sound (2011), and
- A peer reviewed historical review of other types of low frequency noise sources with similar sound emission characteristics, such as large HVAC systems (fans) which caused noise induced Sick Building Syndrome and other noise sources that have known adverse health effects on people exposed to their sound. (2012).

He has been qualified as an expert in acoustics for hearings and court proceedings in several countries. Examples of recent qualifications are:

Jurisdiction	Before	Qualified as:
Ontario, CA (January 2014)	Ministry of Environment (MOE) and Environmental Review Tribunal (ERT)	Qualified to provide evidence on matters related to acoustics and noise control engineering and wind turbines
Alberta, CA (Dec. 2013)	Alberta Utilities Commission (AUC)	an acoustical engineer and acoustician with expertise in the field of sound including noise, low frequency noise, sounds emitted from industrial wind turbines and human response to noise.
Michigan, US	Michigan Circuit Court	<ol style="list-style-type: none"> <li>1. acoustician with expertise in measurement of wind turbine noise and its effects on people. (Dec. 2013)</li> <li>2. acoustician qualified to opine that the plaintiff's symptoms were caused by the defendant's wind turbines. After special Daubert Hearing (Dec. 2013)</li> </ol>

NAME	POSITION TITLE	BIRTHDATE
Richard R. James	Principal Consultant, E-Coustic Solutions, LLC (2006- )	3/3/48

**ACADEMIC CREDENTIALS**

INSTITUTION	DEGREE/POSITION	YEAR	FIELD
General Motors Institute, Flint, MI	B. Mech. Eng.	1966-1971	Noise Control Engineering
Michigan State University, East Lansing, MI	Adjunct Instructor	1985-2013	Acoustics and Effects of Noise on People
Central Michigan University, Mount Pleasant, MI	Adjunct Professor	2012-2017	Wind Turbine Noise and its Impact on People

**RESEARCH AND PROFESSIONAL EXPERIENCE:**

Richard R. James has been actively involved in the field of noise control since 1969, participating in and supervising research and engineering projects related to control of occupational and community noise in industry. In addition to his technical responsibilities as principal consultant, he has developed noise control engineering and management programs for the automotive, tire manufacturing, and appliance industries. Has performed extensive acoustical testing and development work in a variety of complex environmental noise problems utilizing both classical and computer simulation techniques. In 1975 he co-directed (with Robert R. Anderson) the development of SOUND™, an interactive acoustical modeling computer software package based on the methods that would be later codified in ISO 9613-2 for pre and post-build noise control design and engineering studies of in-plant and community noise. The software was used on projects with General Motors, Ford Motor Company, The Goodyear Tire & Rubber Co., and a number of other companies for noise control engineering decision making during pre-build design of new facilities and complaint resolution at existing facilities. The SOUND™ computer model was used by Mr. James in numerous community noise projects involving new and existing manufacturing facilities to address questions of land-use compatibility and the effect of noise controls on industrial facility noise emissions. He is also the developer of ONE\*dB™ software. He was also a co-developer (along with James H. Pyne, Staff Engineer GM AES) of the Organization Structured Sampling method and the Job Function Sound Exposure Profiling Procedure which in combination form the basis for a comprehensive employee risk assessment and sound exposure monitoring process suitable for use by employers affected by OSHA and other governmental standards for occupational sound exposure. Principal in charge of JAA's partnership with UAW, NIOSH, Ford, and Hawkwa on the HearSaf 2000™ software development CRADA partnership for world-class hearing loss prevention tools.

- 1966-1970 Co-operative student: General Motors Institute and Chevrolet Flint Metal Fabricating Plant.
- 1970-1971 GMI thesis titled: "Sound Power Level Analysis, Procedure and Applications". This thesis presented a method for modeling the effects of noise controls in a stamping plant. This method was the basis for SOUND™.
- 1970-1972 Noise Control Engineer-Chevrolet Flint Metal Fabricating Plant. Responsible for developing and implementing a Noise Control and Hearing Conservation Program for the Flint Metal Fabricating Plant. Member of the GM Flint Noise Control Committee which drafted the first standards for community noise, GM's Uniform Sound Survey Procedure, "Buy Quiet" purchasing specification, and guidelines for implement-ing a Hearing Conservation Program.
- 1972-1983 Principal Consultant, Total Environmental Systems, Inc.; Lansing, MI. Together with Robert R. Anderson formed a consulting firm specializing in community and industrial noise control.
- 1973-1974 Consultant to the American Metal Stamping Association and member firms for in-plant and community noise.
- 1973 Published: "Computer Analysis and Graphic Display of Sound Pressure Level Data For Large Scale Industrial Noise Studies", Proceedings of Noise-Con '73, Washington, D.C.. This was the first paper on use of sound level contour 'maps' to represent sound levels from computer predictions and noise studies.
- Nov. 1973 Published: "Isograms Show Sound Level Distribution in Industrial Noise Studies", Sound & Vibration Magazine
- 1975 Published: "Computer Assisted Acoustical Engineering Techniques", Noise-Expo 1975, Atlanta, GA which advanced the use of computer models and other computer-based tools for acoustical engineers.
- 1976 Expert Witness for GMC at OSHA Hearings in Washington D.C. regarding changes to the "feasible control" and cost-benefit elements of the OSHA Noise Standard. Feasibility of controls and cost-benefit were studied for the GMC, Fisher Body Stamping Plant, Kalamazoo MI.
- 1977-1980 Principal Consultant to GMC for the use of SOUND™ computer simulation techniques for analysis of design,

layout, and acoustical treatment options for interior and exterior noise from a new generation of assembly plants. This study started with the GMAD Oklahoma City Assembly Plant. Results of the study were used to refine noise control design options for the Shreveport, Lake Orion, Bowling Green plants and many others.

- 1979-1983 Conducted an audit and follow-up for all Goodyear Tire & Rubber Company's European and U.K. facilities for community and in-plant noise.
- 1981-1985 Section Coordinator/Speaker, Michigan Department Of Public Health, "Health in the Work Place" Conference.
- 1981 Published: "A Practical Method for Cost-Benefit Analysis of Power Press Noise Control Options", Noise-Expo 1981, Chicago, Illinois
- 1981 Principal Investigator: Phase III of Organization Resources Counselors (ORC), Washington D.C., Power Press Task Force Study of Mechanical Press Working Operations. Resulted in publishing: "User's Guide for Noise Emission Event Analysis and Control", August 1981
- 1981-1991 Consultant to General Motors Corporation and Central Foundry Division, Danville Illinois in community noise citation initiated by Illinois EPA for cupola noise emissions. Resulted in a petition to the IEPA to change state-wide community noise standards to account for community response to noise by determining compliance using a one hour  $L_{eq}$  instead of a single not-to-exceed limit.
- 1983 Published: "Noise Emission Event Analysis-An Overview", Noise-Con 1983, Cambridge, MA
- 1983-2006 Principal Consultant, James, Anderson & Associates, Inc.; Lansing, MI. (JAA), Together with Robert R. Anderson formed a consulting firm specializing in Hearing Conservation, Noise Control Engineering, and Program Management.
- 1983-2006 Retained by GM Advanced Engineering Staff to assist in the design and management of GM's on-going community noise and in-plant noise programs.
- 1984-1985 Co-developed the 1985 GM Uniform Plant Sound Survey Procedure and Guidelines with James H. Pyne, Staff Engineer, GM AES.
- 1985-2013 Adjunct instructor in Michigan State University's Department of Communicative Sciences and Disorders from 1985-2013
- 1986-1987 Principal Consultant to Chrysler Motors Corporation, Plant Engineering and Environmental Planning Staff. Conducted Noise Control Engineering Audits of all manufacturing and research facilities to identify feasible engineering controls and development of a formal Noise Control Program.
- 1988-2006 Co-Instructor, General Motors Corporation Sound Survey Procedure (Course 0369)
- 1990 Developed One\*dB<sup>(tm)</sup>, JAA's Occupational Noise Exposure Database manager to support Organizational structured sampling strategy and Job Function Profile (work-task) approach for sound exposure assessment.
- 1990-1991 Co-developed the 1991 GM Uniform Plant Sound Survey Procedure and Guidelines with James H. Pyne, Staff Engineer, GM AES. Customized One\*dB<sup>(tm)</sup> software to support GM's program.
- 1990-2006 Principal Consultant to Ford Motor Company to investigate and design documentation and computer data management systems for Hearing Conservation and Noise Control Engineering Programs. This included bi-annual audits of all facilities.
- 1993-2006 GM and Ford retain James and JAA as First-Tier Partners for all non-product related noise control services.
- 1993 Invited paper: "An Organization Structured Sound Exposure Risk Assessment Sampling Strategy" at the 1993 AIHCE
- 1993 Invited paper: "An Organization Structured Sound Exposure Risk Assessment Database" at the Conference on Occupational Exposure Databases, McLean, VA sponsored by ACGIH
- 1994-2001 Instructor for AIHA Professional Development Course, "Occupational Noise Exposure Assessment"
- 1996 Task Based Survey Procedure (used in One\*dB<sup>(tm)</sup>) codified as part of ANSI S12.19 Occ. Noise Measurement
- 1995-2001 Coordinate JAA's role in HearSaf 2000<sup>tm</sup> CRADA with NIOSH, UAW, Ford, and HAWKWA
- 1997-2007 Board Member, Applied Physics Advisory Board, Kettering Institute, Flint, Michigan
- 2002-2006 Member American National Standards Institute (ANSI) Accredited Standards Committee S12, Noise
- 2006 Closed James, Anderson and Associates, Inc. (JAA) and founded E-Coustic Solutions (E-CS)
- 2006-Present Consultant to local communities and citizen's groups on proper siting of Industrial Wind Turbines. This includes presentations to local governmental bodies, assistance in writing noise standards, and formal testimony at zoning board hearings and litigation.
- 2008 Paper on "Simple guidelines for siting wind turbines to prevent health risks" for INCE Noise-Con 2008, coauthored with George Kamperman, INCE Bd. Cert. Emeritus, Kamperman Associates.

- 2008 Expanded manuscript supporting Noise-Con 2008 paper titled: "The "How To" Guide To Siting Wind Turbines To Prevent Health Risks From Sound"
- 2009 "Guidelines for Selecting Wind Turbine Sites," Kamperman and James, Published in the September 2009 issue of Sound and Vibration.
- 2010 Punch, J., James, R., Pabst, D., "Wind Turbine Noise, What Audiologists should know," Audiology Today, July-August 2010
- 2011 Jerry L. Punch, Jill L. Eifenbein, and Richard R. James, "Targeting Hearing Health Messages for Users of Personal Listening Devices," Am J Audiol 0: 1059-0889\_2011\_10-0039v1
- 2011 Bray, W., HEAD Acoustics, James, R., "Dynamic measurements of wind turbine acoustic signals, employing sound quality engineering methods considering the time and frequency sensitivities of human perception," invited paper for Noise-Con 2011, Portland OR
- 2012 James, R., "Wind Turbine Infra and Low Frequency Sound: Warning Signs that were not Heard," April 2012, Bulletin of Science, Technology and Society
- 2012 Appointed to position as Adjunct Professor in the Department of Communication Disorders at Central Michigan University.

### Professional Affiliations/Memberships/Appointments

Research Fellow - Metrosonics, Inc.	American Industrial Hygiene Association (through 2006)
National Hearing Conservation Association (through 2006)	Institute of Noise Control Engineers (Full Member)
American National Standards Institute (ANSI) S12 Working Group (through 2006)	Founder and Board Member of the Society for Wind Vigilance, Inc.
Adjunct Professor, CMU 2012-2017	Adjunct Instructor, MSU 1985-2013

**Summary of Court and Administrative Agency Cases  
for Richard R. James, INCE Since 2006  
Dec. 1, 2015<sup>1</sup>**

<b>Jurisdiction</b>	<b>Date</b>	<b>Case No.</b>	<b>Topic</b>
Chatham Ontario, Kent Breeze Wind	February-11	Hearing before Ontario Environmental Board of Review: Case No: 10-121/10-122	Hearing on whether project complies with Ontario regulations to protect health under the Green Energy Act.
Town of Albany, VT	February-11	Hearing before Public Services Commission, Docket No. 7628	Hearing before PUC on application for permit by Green Mountain Power Corp. for Kingdom Mountain Wind, LLC.
State of Maine	July 7, 2011	Hearing before the Maine Board of Environmental Protection	Hearing before the BEP on a Petition for Rule Change for Maine's Chapter 375 Noise Regulations to add specific Rules for wind turbine noise.
State of Michigan Circuit Court of Leelanau county	Nov. 8-10, 2011	Michigan Circuit Court, Leelanau County. Case No: 11-8456-CZ	Complaint of Nuisance Noise and other effects of a 100kW Residential class wind turbine
Illinois, Bureau County, Friesland Farms, LLC, Pierson, Plaintiff, v. Big Sky Wind, LLC)	Dec. 30, 2011 (filed testimony) Feb. 1, 2012 Deposed	US District Court, Central District of Illinois, Peoria. Case No. 10-01232	Complaint of noise annoyance and adverse health effects. Case to be heard in early 2013.
Escanaba Twp. (Gladstone MI) vs. Wells Lions Race Track	March 2012 field study and June 2012 report to town attorney	Township enforcement actions	Complaint of noise annoyance related to ice racing race track adjoining residentially zoned property.
Vermonters for a Clean Environment vs. U.S.D.A. Forest Service,	July 23, 2012 filed testimony for Appeal of Decision	US District Court, District of Vermont Civil Action No. 1:12-cv-73	USFWS Failed to properly consider impact of Deerfield Wind Project on Aiken Wilderness Area in its Decision to Approve said project.
Intervenors opposing Application for Certification: Pursuant to RSA 162-H of ANTRIM WIND ENERGY, LLC	PFT and oral testimony presented Aug. 23, 2012. Additional oral testimony on Nov. 29, 2012.	State of New Hampshire Site Evaluation Committee. Docket No. 2012-01	Application for Certification: Pursuant to RSA 162-H of ANTRIM WIND ENERGY, LLC. Testimony on behalf of North Branch Residents Intervenors Group, Abutting Property Owners Intervenors Group, and Katharine Elizabeth Sullivan. Case to be heard Oct. 2012.
Union Neighbors United, Intervenors opposing Application of Champaign Wind LLC before Ohio Power Siting Board	PFT and oral testimony presented Nov. 2012	State of Ohio, Power Siting Board Case No: 12-0160-EL-BGN	Testimony on behalf of Union Neighbors United in opposition to 2nd Phase of Buckeye Wind project. Champaign County, Ohio.
Private lawsuit by Wiltzer family against Stoney Creek Wind Project, McBain, Michigan	Affidavits and other documents	Lawsuit pending	Testimony on behalf of family who has vacated their home as a result of a 2.5 MW wind turbine being operated at 1350 feet from their home.
Private Lawsuit by Zawadzki family vs. Noble Bliss Wind Park and Town of Eagle, New York	Affidavits, noise studies and other related testimony.	Before the State of New York, Supreme Court, Wyoming County, NY, Index No. 43260/10	Testimony on behalf of family who allege that the subject wind utility causes sleep interference and other adverse effects from operation of wind turbines located approximately 1500 feet from home.
MOE Public Hearing for St. Columban Wind Project,	Critical review of Noise Impact Assessment conducted by Zephyr North for St. Columban Wind.	Ontario EBR Registry Number 011-7629, Ministry Reference Number: 6602-8V9P97	Written testimony on behalf of residents living in or near the foot print of the St. Columban project, Huron County, Ontario, Canada
Wisconsin, Public Service Commission, Hearing on Application of Highland Wind Farm, Towns of Forest and Cylon, Wisconsin.	Supplemental Direct Testimony and additional statements to WPSC. Oral testimony pending on January 17, 2013.	WPSC Docket No. 2353-CE-100	Testimony on behalf of Forest Voice on advanced analysis methods and findings from use of those methods to analyze the calibrated audio files collected by the PSC selected Team at homes of affected families in Shirley Wind Project, Glenmore, Wisconsin.
Michigan 28th Circuit Court: Wiltzer vs. Heritage Sustainable Energy, LLC	July 7, 2013 through April 3, 2014	Case No. 12 8205 CZ	Deposition by Heritage July 7, 2013 Daubert Hearing: Oct. 24, 2013 and Dec. 5, 2013 2nd Deposition: April 3, 2014

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Paulus vs. Citicorp, Bank data processing center backup diesel generator noise	Deposition: Dec. 18, 2013 Declarations and assistance with motions	Case No. 2:12-cv-856	Deposition by Citibank on Dec. 18, 2013 Judge's response to motions for summary judgment and Daubert Hearing on James' qualifications for noise related to combustion engine noise and human response.
Dixon et. al v. Director, MOE and Middlesex- Lambton Wind Action Group Inc. et. al. v. Director, MOE	Sept. 26, 2013	Case Nos. 13-084-13- 087 and Case. Nos. 13- 088-13-089	Hearing on Application under Ontario Renewable Energy Act for St. Columban Wind project approval.
Cooper vs. Comer, Onandaga Race Track, Leslie, MI	Noise Study: Oct. 12, 2013 Hearing: Mar. 17, 2014, June 22, and Aug. 24, 2015	File No: 13-1193-ND	Noise study of drag strip events and hearing with audio visual demonstration of noise at three test sites.
Drennan v. Director, Ministry of the Environment	Oct. 21, 2013	Case Nos. 13-097/13- 098	Hearing on Application under Ontario Renewable Energy Act for Kings Bridge 2 Wind Project approval.
Michigan, 28th Circuit Court for County of Missaukee. Wiltzer vs. Heritage Sustainable Energy. Daubert Hearing	Oct. 24, 2013 and Dec. 5, 2013	Case No. 12 8205 CZ	Deposition: July 22, 2013 Daubert Hearing: Dec. 5, 2013 2nd Deposition: April 3, 2014
Alberta, CA, Alberta Utility Commission, Bull Creek Wind	Nov. 18, 2013-Dec.	Proceeding ID No. 1955	Testimony on behalf of Killarney Lake Group regarding deficiencies in Application for Bull Creek Wind and other reasons the application should be rejected.
Koepflin v. Director, Ministry of the Environment (ARMOW)	January 8, 2014	Case: 13-124/13-125	Hearing on Application under Ontario Renewable Energy Act for ARMOW Wind Project approval.
Rueter v. Osceola Windpower, LLC Iowa District Court/Osceola County	Deposition: original date of Aug. 21, 2014 postponed at defendant's request. To be rescheduled	EQCV0018304	Noise Nuisance lawsuit against wind energy utility
Cham Shan Temple v. Director, Ontario Ministry of Environment (MOE)	Dec. 19, 2014 via Skype	ERT File: 13-140/13-141/13-142.	Hearing on impact of Sumac project wind turbines on Buddhist pilgrimage meditation practices.
Dingeldein v. Director, Ontario Ministry of Environment and Climate Change (MOECC)	May 6, 2015 at Grey Highlands Zero Power ERT	ERT File:15-011	Hearing on impact of Grey Highland Zero Power Project.
Fohr v. Director, Ontario Ministry of Environment and Climate Change (MOECC)		ERT File: 15-026	Hearing on Impact of Grey Highland Clean Energy Project. Oral testimony not given due to problems with teleconference equipment.
Daniel Brian Williams v. Invenergy LLC, et al.	Trial date not set.	Case No. 2:13-cv-01391- AC US District Court, District of Oregon	Written Testimony and Deposition.
Intervenors v. Walnut Ridge Wind LLC (BHE Renewables)	July 23, 2105 and August 12, 2105	BCZBA-WRW Bureau County, IL, USA	Oral and written testimony before Bureau County Zoning Board of Appeals regarding Walnut Ridge Wind Project.
Alliance to Protect Prince Edward County (APPEC) et al v. Director, MOECC	Nov. 19, 2015	ERT Case Nos. 15-068/15-069	Oral and written testimony before Ontario Environmental Review Tribunal regarding appeal of permit
Walker et al v. Kingfisher Wind, LLC,et al	TBD	Case No. 14-cv-914-D	US District Court, Western District of Oklahoma
Falmouth v Falmouth (Anderson) and (Ohkagawa)	TBD	Docket no. BACV2013-00281-A	Suit filed against Falmouth, MA regarding actions or inactions of Zoning Board of Appeals

<sup>1</sup> This list is not intended as a definitive list of all work. It lists the primary cases where testimony was provided. It may also have incomplete or inaccurate information as a result of rescheduling or other changes.

# E-Coustic Solutions

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## List of Recent Publications

Sept. 28, 2015

- 2008 Paper on "Simple guidelines for siting wind turbines to prevent health risks" for INCE Noise-Con 2008, co-authored with George Kamperman, Kamperman Associates.
- 2008 Expanded manuscript supporting Noise-Con 2008 paper titled: "The "How To" Guide To Siting Wind Turbines To Prevent Health Risks From Sound"
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